

Date: Wed, 25 May 94 04:30:22 PDT  
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>  
Errors-To: Ham-Ant-Errors@UCSD.Edu  
Reply-To: Ham-Ant@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Ant Digest V94 #156  
To: Ham-Ant

Ham-Ant Digest                      Wed, 25 May 94                      Volume 94 : Issue 156

Today's Topics:

Cushcraft R-5 question  
Dipole help  
Dipole help -- ERRATA  
Postscript Smith-chart  
Quoting Diarrhoea (2 msgs)  
Skinny Dip

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>  
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Wed, 25 May 1994 08:17:28 GMT  
From: ihnp4.ucsd.edu!library.ucla.edu!csulb.edu!csus.edu!netcom.com!  
rogjd@network.ucsd.edu  
Subject: Cushcraft R-5 question  
To: ham-ant@ucsd.edu

Jim Revkin (revco@YALE.EDU) wrote:

: I just put up a Cushcraft R-5 and have been checking the SWR  
: curves.  
: The lowest SWR seems to be below the operating frequencies  
: where I'd be mostlikely to operate: e.g. an SWR of 1.2 at  
: 14.1 mHz and an SWR of 1.8-2.0 at 14.3+ mHz. In fact  
: most of the bands have the same pattern. I tried shortening  
: all of the elements from .5 to .7 inches, with little change in  
: the SWR curves. Can I keep shortening? How much will changing  
: distance on one element effect the others? I would have liked to

: work this out before putting it on the roof, but had difficulties re  
: mounting. So I'd like to minimize the amount of trial and error and  
: roof time.

: Thanks in advance.

: Jim Revkin KA1QJ please reply to: revco@revco.med.yale.edu

You might want to refer to the March issue of QST regarding the effects and losses associated with SWR. There is a pretty interesting article which makes the case that an SWR of 2/1 is not worth bothering with under most circumstances. I run an R-5 here, and on 20 meters the best match is at about 14.1 (1.2/1) with about 2/1 at the top of the fone band. I would consider it to be pretty much a waste of time to bother messing with it further, as my 850's transmatch can match it to the rig, and the losses associated with a 2/1 SWR are less than 1 DB.

IMHO, you are ready to roll. :-)

--

rogjd@netcom.com  
Glendale, CA  
AB6WR

-----  
Date: 25 May 1994 05:54:32 GMT  
From: ihnp4.ucsd.edu!agate!kabuki.EECS.Berkeley.EDU!kennish@network.ucsd.edu  
Subject: Dipole help  
To: ham-ant@ucsd.edu

In article <CqC96D.8Mx@Dunx1.0CS.Drexel.Edu>,  
<XTL00014@DUVM.0CS.DREXEL.EDU> wrote:  
>If the natural impedance of a dipole for 10m is 72 ohms, is it possible  
>to directly connect the coax (shield to one side, center to another)  
>without an SWR problem or do I need a 1:1 balun?  
>(Forgive me. I just picked up my element 1A)

You are forgiven -- pleasure to help.  
>73 de N3RCS AR K

In short, yes.

The 1/2 wave dipole is a balanced element. That is, the current in one side of the dipole is equal and opposite to the current in the other half, and so is the voltage. Thus, you need to drive it "differentially" -- connecting a coax directly will destroy the symmetry of the dipole. In most cases, doing so will also couple

a significant amount of RF radiation into the shield of the coax, something to be avoided.

Use a 1:1 balun. Also, keep in mind that the impedance of a dipole is 72 ohms with an infinitely thin wire and in free space away from ground. In reality, it will be closer to about 50 ohms. There are tables/formulae/graphs that will tell you the complex impedance as a function of distance from the ground. Also, the closer to the ground your antenna ( $< 1/4$  wavelength), the more energy you will put into higher angles -- this is probably bad for 10 meters as the MUF is pretty low these days. (unless you are working Es).

-Ken

-----

Date: 25 May 1994 06:24:47 GMT  
From: ihnp4.ucsd.edu!agate!kabuki.EECS.Berkeley.EDU!kennish@network.ucsd.edu  
Subject: Dipole help -- ERRATA  
To: ham-ant@ucsd.edu

In article <2rup6o\$gjj@agate.berkeley.edu>,  
Ken A. Nishimura <kennish@kabuki.EECS.Berkeley.EDU> wrote:

>

>The 1/2 wave dipole is a balanced element. That is, the current in  
>one side of the dipole is equal and opposite to the current in the  
>other half, and so is the voltage. Thus, you need to drive it  
(rest of explanation deleted)

Egads, I miswrote what I meant. The above should state that a dipole is a balanced element. The current is in the SAME direction on both sides, while the voltage is equal and opposite.

A dipole is resonant and is  $1/2$  wave long. The voltage and current thus must be in the shape of  $1/2$  of a sinusoidal cycle. Boundary conditions dictate that the current must be zero at the ends of the wire. So, you have zero current at the ends, and maximum at the center point, all in one direction (either positive or negative). The voltage must be zero at the point of symmetry, and can be maximum at the ends, so it looks like the center  $1/2$  of a sine wave (sort of from 90 to 270 degrees), with opposite polarities at the ends.

Sorry about the typo earlier....

-ken

-----  
Date: Tue, 24 May 94 22:07:20 EDT  
From: ihnp4.ucsd.edu!agate!usenet.ins.cwru.edu!ns.mcs.kent.edu!kira.cc.uakron.edu!  
malgudi.oar.net!hypnos!voxbox!jgrubs@network.ucsd.edu  
Subject: Postscript Smith-chart  
To: ham-ant@ucsd.edu

-----BEGIN PGP SIGNED MESSAGE-----

> In article <2rtlg0\$8gu@news.iesd.auc.dk> scor92@kom.auc.dk writes:  
> >Does somebody know where to find a nice smith-chart. In cdr (Ohh i hope that)  
tiff, gif, tga - you name it! I have tried to make one myself i CorelDraw - but  
was not satisfied.....  
> >  
> >  
> > Soren - Univercity of Aalborg, Denmark

I have a plastic, circa 1940s, Smith circular "sliderule" I'm  
willing to part with.

-----BEGIN PGP SIGNATURE-----

Version: 2.5

Comment: jgrubs@voxbox.norden1.com (Jim Grubs, W8GRT)

iQCVAgUBLeKz/jDUWq8RWEeNAQGZlwP/YNE8igo28sKi5BaLjr7AEWxTNWs4XmZc  
UEcrHmWLDW/PzqW+NxeagGoUI/gbaEeQv063HWTseQZZ0sQvS7Q+Rj6Br/c56b+x  
ar+Dgl+TOQqTMQxH5o3UUQwiAEc6UM64omldbvYHA6ZzKPrwA3MV20DckI13wW1H  
uT3AjGQuuh4=  
=qXJI

-----END PGP SIGNATURE-----

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+-----+
| Jim Grubs, W8GRT          Voxbox Enterprises   THIS SPACE FOR RENT |
| jgrubs@voxbox.norden1.com 6817 Maplewood Ave.  RATES REASONABLE  |
| Fido: 1:234/1.0           Sylvania, Ohio 43560 Home: 419/882-2697 |
|                           AMATEUR RADIO - The National Park of the Mind |
+-----+
```

-----  
Date: Wed, 25 May 1994 03:11:42 GMT  
From: ihnp4.ucsd.edu!usc!elroy.jpl.nasa.gov!ncar!asuvax!pitstop.mcd.mot.com!  
mcdphx!schbbs!fl08ara016.comm.mot.com!user@network.ucsd.edu  
Subject: Quoting Diarrhoea  
To: ham-ant@ucsd.edu

In article <11A192AD063F602AC7@qut.edu.au>, RICKARD@qut.EDU.AU (Doug Rickard) wrote:

```
>
> To:      Ham-Ant@UCSD.Edu
> From:    RICKARD@qut.edu.au
> Re:      Quoting diarrhoea
>
> PLEASE, PLEASE, PLEASE, can we stop the quoting diarrhoea which
> seems to be affecting many of the respondents to this conference.
>
> In many cases quote sections of up to 3kb are followed by a 1
> word response.
>
> In some cases 2nd order, 3rd order, 4th, and sometimes even 5th order
> requotes are seen. This is not necessary.
>
> In some cases forwarding path lists of up to 30 lines have been
> quoted. This is not necessary.
>
> It is not a sin to edit the quoted text. The fact that we delimit
> the quoted text by > or other accepted symbols is to indicate that
> sections of text may have been deleted for the sake of brevity or
> clarification. The use of the " symbol is used to indicate those
> cases where the original text has to be quoted verbatim.
>
> If your response to a quoted section is less than the size of the quote,
> then obviously you have nothing to say or contribute to the discussion
> and it would be better to say nothing. Remember, better to be thought
> an idiot, than open your mouth and prove it.....
>
> If it doesn't add to the discussion, leave it out. Toilet walls are
> the place for those desperate to see their words in public places.
>
> Doug
>
> Internet:-      rickard@qut.edu.au
> Packet:-      VK4ZDR@VK4DIT.GOLD.QLD.AUS.OC
```

Actually, what annoys me most is the wasted space (thus bandwidth) caused by people who do not know how to write. I am referring, of course, to the wasted spaces between paragraphs that do not deserve to be paragraphs.

What's a 5th order requote? Is this some kind of written intermod?

--

Don Burns  
Plantation, Florida

epur01@email.mot.com

-----  
Date: 24 May 94 23:58:14 -0800  
From: elroy.jpl.nasa.gov!usc!nic-nac.CSU.net!vax.sonoma.edu!harrisok@ames.arpa  
Subject: Quoting Diarrhoea  
To: ham-ant@ucsd.edu

In article <769833619snx@skyld.grendel.com>, jangus@skyld.grendel.com (Jeffrey D. Angus) writes:

>  
> In article <hawley.769795772@aries> hawley@aries.scs.uiuc.edu writes:  
>  
> >  
> [ quoting entire article then follows up with ]  
> >  
> > What's "diarrhoea"?  
> >  
> > Chuck, KE9UW, Urbana, IL  
> >  
>  
> Well, I suppose he meant diarrhea, but you certainly set the example as  
> to what he was talking about.  
>  
>  
> Amateur: WA6FWI@WA6FWI.#SOCA.CA.USA.NOAM | "You have a flair for adding  
> Internet: jangus@skyld.grendel.com | a fanciful dimension to any  
> US Mail: PO Box 4425 Carson, CA 90749 | story."  
> Phone: 1 (310) 324-6080 | Peking Noodle Co.  
>  
> Hate "Green Card Lottery"? Want to help curb ignorant crossposting on Usenet?  
> E-mail ckeroack@hamp.hampshire.edu for more information, or read news.groups.  
>

Just wanted to help out and do my part with Diarrheal Quoting!!

Jangus-- The part I find completely hilarious (besides your failure to recognize the satire) is the fact that you complain about setting an example with a 1 1/2 line post and then follow it up with a 6-7 line signature!! Since the original post was meant to point out the need for conserving bandwidth, you have made a mockery of yourself! Ha!

Flame not, and ye shall not be flamed. <grin>

Ken N6MHG

-----  
Date: 24 May 1994 04:42:07 -0400  
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!usenet.ufl.edu!  
usenet.cis.ufl.edu!anshar.shadow.net!anshar.shadow.net!nobody@network.ucsd.edu  
Subject: Skinny Dip  
To: ham-ant@ucsd.edu

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End of Ham-Ant Digest V94 #156  
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